United Nations ECE/TRANS/WP.29/GRSP/2015/1

Economic and Social Council

Distr.: General
20 February 2015

Original: English

Economic Commission for Europe

Inland Transport Committee

World Forum for Harmonization of Vehicle Regulations

Working Party on Passive Safety

Fifty-seventh session
Geneva, 18–22 May 2015
Item 1 of the provisional agenda
Adoption of the agenda

Annotated provisional agenda for the fifty-seventh session [1, 2]

to be held at the Palais des Nations, Geneva, starting at 2.30 p.m. on Monday, 18 May 2015 and concluding at 12.30 p.m. on Friday, 22 May 2015.

[1] For reasons of economy, delegates are requested to bring copies of all relevant documents to the session. There will be no documentation available in the conference room. Before the session, documents may be downloaded from the UNECE Transport Division's website (www.unece.org/trans/main/wp29/wp29wgs/wp29grsp/grspage.html). On an exceptional basis, documents may also be obtained by e-mail (grsp@unece.org) or by fax (41 22 91 70 039). During the session, official documents may be obtained from the UNOG Documents Distribution Section (Room C.337, third floor, Palais des Nations). For translations of the official documents, delegates can access the public Official Document System (ODS) on the following website: http://documents.un.org/.

[2] Delegates are requested to register online with the new registration system on the UNECE website (https://www2.unece.org/uncdb/app/ext/meeting-registration?id=Ss5eKQ). Upon arrival at the Palais des Nations, delegates should obtain an identification badge at the UNOG Security and Safety Section, located at the Pregny Gate (14, Avenue de la Paix). In case of difficulty, please contact the secretariat by telephone (ext. 74323). For a map of the Palais des Nations and other useful information, please go to: www.unece.org/meetings/practical.htm.

GE.15-03192 (E)
1503192

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I. Provisional agenda*

1. Adoption of the agenda.
2. Global technical regulation No. 7 (Head restraints).
3. Global technical regulation No. 9 (Pedestrian safety):
   (a) Proposal for Phase 2 of the global technical regulation;
   (b) Proposal for amendments to Phase 1 and draft Phase 2 of the global technical regulation.
4. Harmonization of side impact dummies.
5. Global technical regulation on electric vehicles.
6. Regulation No. 14 (Safety-belt anchorages).
7. Regulation No. 16 (Safety-belts).
8. Regulation No. 17 (Strength of seats).
9. Regulation No. 22 (Protective helmets).
10. Regulation No. 44 (Child restraint systems).
11. Regulation No. 80 (Strength of seats and their anchorages (buses)).
12. Regulation No. 94 (Frontal collision).
13. Regulation No. 127 (Pedestrian safety).
14. Regulation No. 129 (Enhanced Child Restraint Systems).
15. Proposal for a new Regulation on Frontal Impact.
16. Collective amendments to Regulations Nos. 14 and 16.
17. Other business:
   (a) Exchange of information on national and international requirements on passive safety;
   (b) Definitions and acronyms in Regulations under the responsibilities of GRSP;
   (c) Development of the International Whole Vehicle Type Approval (IWVTA) system and involvement of the Working Parties;
   (d) Highlights of the March 2015 session of WP.29;
   (e) Three-dimensional H-point machine;
   (f) Intelligent transport systems.

II. Annotations

1. Adoption of the agenda

In accordance with Chapter III, Rule 7 of the Rules of Procedure (TRANS/WP.29/690, Amend. 1 and Amend. 2) of the World Forum for Harmonization of Vehicle Regulations (WP.29), the first item on the provisional agenda is the adoption of the agenda.

* Documents in brackets will not be considered at the session. They are on the agenda for reference purpose only.

Documentation

ECE/TRANS/WP.29/GRSP/2015/1

2. Global technical regulation No. 7 (Head restraints)

GRSP agreed to resume consideration on the ongoing activities of the Informal Working Group (IWG) on UN GTR No. 7, Phase 2 and its revised proposal on: (i) UN GTR Phase 2 (ECE/TRANS/WP.29/GRSP/2013/24) and (ii) a proposal of amendments to the Mutual Resolution No. 1 (M.R.1). Moreover, GRSP might wish to resume consideration on a proposal of amendments to the height of head restraints of the UN GTR (ECE/TRANS/WP.29/GRSP/2013/17) tabled by the experts from Germany, the Netherlands and the United Kingdom of Great Britain and Northern Ireland.

Documentation

ECE/TRANS/WP.29/GRSP/56, paras. 4 to 6
ECE/TRANS/WP.29/GRSP/2013/17
ECE/TRANS/WP.29/GRSP/2013/24

3. Global technical regulation No. 9 (Pedestrian safety)

(a) Proposal for Phase 2 of the global technical regulation

GRSP will continue discussion on a full package of proposals submitted by the IWG on UN GTR No. 9, Phase 2 concerning: (i) Phase 2 of the UN GTR (ECE/TRANS/WP.29/GRSP/2014/15), (ii) the final report of the IWG (ECE/TRANS/WP.29/GRSP/2014/16) and (iii) an amendment to the draft Phase 2 to improve the provisions of the bumper test (ECE/TRANS/WP.29/GRSP/2015/2).

Documentation

ECE/TRANS/WP.29/GRSP/56, paras. 7 to 10
ECE/TRANS/WP.29/GRSP/2014/15
ECE/TRANS/WP.29/GRSP/2014/16
ECE/TRANS/WP.29/GRSP/2015/2
(ECE/TRANS/WP.29/AC.3/24)
(GRSP-56-39)

(b) Proposal for amendments to Phase 1 and draft Phase 2 of the global technical regulation

GRSP may resume consideration of a revised proposal of amendments to Phase 1 and draft Phase 2 of the UN GTR, if any.

Documentation

ECE/TRANS/WP.29/GRSP/56, para. 11
ECE/TRANS/WP.29/GRSP/2012/2
ECE/TRANS/WP.29/GRSP/2014/2
ECE/TRANS/WP.29/GRSP/2014/5
(ECE/TRANS/WP.29/AC.3/31)

4. Harmonization of side impact dummies

GRSP will be informed about the ongoing activities of the IWG on developments and on the availability of the full set of drawings and specifications, including the user manual of

the 50th percentile World Side Impact dummy (WorldSID) for the final draft addendum to the M.R.1.

Documentation

ECE/TRANS/WP.29/GRSP/56, para. 12
(ECE/TRANS/WP.29/AC.3/28)

5. Global technical regulation on electric vehicles

GRSP will be informed about the work progress of the IWG on Electric Vehicle Safety (EVS) on developing a UN GTR.

Documentation

ECE/TRANS/WP.29/GRSP/56, para. 13
(ECE/TRANS/WP.29/2012/121)
(ECE/TRANS/WP.29/AC.3/32)

6. Regulation No. 14 (Safety-belt anchorages)

GRSP will resume consideration on a proposal from the International Organization of Motor Vehicle Manufacturers (OICA), improving the provisions concerning vehicles of category M_1 having only one seat row and introducing a new definition of "bucket seat" (ECE/TRANS/WP.29/GRSP/2015/3).

Documentation

ECE/TRANS/WP.29/GRSP/56, paras. 14 and 15
ECE/TRANS/WP.29/GRSP/2015/3

7. Regulation No. 16 (Safety-belts)

GRSP will consider a proposal tabled by the expert from the European Association of Automotive Suppliers (CLEPA) aimed at clarifying the provisions for dynamic testing of the rear seat system and an advanced restraint system approval (ECE/TRANS/WP.29/GRSP/2015/4). GRSP may wish to consider a proposal tabled by the expert from the Netherlands concerning the approval of "general-use safety belts" (ECE/TRANS/WP.29/GRSP/2015/13). GRSP might wish to consider proposals submitted by the IWG on Child Restraint System (CRS) to verify which seating positions would allow the installation of the universal booster proposed by the draft 01 series of amendments to UN Regulation No. 129 (Enhanced Child Restraint Systems), if any. Moreover, GRSP will consider a proposal tabled by the expert from the Republic of Korea aimed at introducing the mandatory fitting of safety-belt reminders also for rear seats, if any. GRSP also might wish to resume consideration on a proposal to simplify transitional provisions in the UN Regulation No. 16 (ECE/TRANS/WP.29/GRSP/2012/25).

Documentation

ECE/TRANS/WP.29/GRSP/56, paras. 16 to 18
ECE/TRANS/WP.29/GRSP/2012/25
ECE/TRANS/WP.29/GRSP/2015/4
ECE/TRANS/WP.29/GRSP/2015/13
(GRSP-56-10)
(GRSP-56-42)

8. Regulation No. 17 (Strength of seats)

GRSP may resume consideration on a proposal submitted by the expert from the Netherlands, proposing a possible amendment to cover the issue of occupant displacement due to the presence of safety-belt load limiters installed on seats other than front seats.

Documentation

ECE/TRANS/WP.29/GRSP/56, para. 22
(GRSP-56-07)

9. Regulation No. 22 (Protective helmets)

GRSP may wish to resume discussion on this agenda item based on recent research on helmets and proposed by the expert from Germany.

Documentation

ECE/TRANS/WP.29/GRSP/56, para. 23

10. Regulation No. 44 (Child restraints systems)

GRSP agreed to continue consideration on a proposal tabled by the expert from Spain to improve dynamic test provisions and to cope with the presence of load limiters on safety belts used to fix CRS in position (ECE/TRANS/WP.29/GRSP/2015/5). GRSP also may wish to resume discussion on a proposal tabled by the expert from CLEPA to update the references to the European standard on toxicity and flammability of materials used to manufacture CRS (ECE/TRANS/WP.29/GRSP/2015/6).

Documentation

ECE/TRANS/WP.29/GRSP/56, paras. 26 and 27
ECE/TRANS/WP.29/GRSP/2015/5
ECE/TRANS/WP.29/GRSP/2015/6
(GRSP-56-06)
(GRSP-56-26)

11. Regulation No. 80 (Strength of seats and their anchorages (buses))

GRSP may wish to continue discussion on this agenda item on the basis of new proposals, if any.

12. Regulation No. 94 (Frontal collision)

GRSP will resume consideration of a proposal for amendments to the UN Regulation submitted by the Chair of the IWG on Frontal Impact (FI) (ECE/TRANS/WP.29/GRSP/2015/7).

Documentation

ECE/TRANS/WP.29/GRSP/56, para. 29
ECE/TRANS/WP.29/GRSP/2015/7
(ECE/TRANS/WP.29/GRSP/2014/22)
(GRSP-56-15-Rev.2)

13. Regulation No. 127 (Pedestrian safety)

GRSP agreed to continue consideration on a proposal introducing the new bumper test method and on the definition of bumper beam submitted by the IWG on UN GTR No. 9, Phase 2 (ECE/TRANS/WP.29/GRSP/2015/8).

Documentation

ECE/TRANS/WP.29/GRSP/56, para. 32
ECE/TRANS/WP.29/GRSP/2015/8
(GRSP-56-41)

14. Regulation No. 129 (Enhanced Child Restraint Systems)

GRSP agreed to resume consideration on the work progress of the IWG on CRS on: (i) a revised proposal of 01 series of amendments to the UN Regulation to incorporate provisions for booster seats (ECE/TRANS/WP.29/GRSP/2015/9) and on (ii) a draft brochure as part of coordinated information campaign for UN Regulation No. 129.

Documentation

ECE/TRANS/WP.29/GRSP/56, paras. 33 to 36
ECE/TRANS/WP.29/GRSP/2015/9
(ECE/TRANS/WP.29/GRSP/2014/28)
(GRSP-56-24) (GRSP-56-27)

15. Proposal for a new Regulation on Frontal Impact

GRSP will resume consideration on revised proposals of: (i) a new UN Regulation on frontal impact with focus on the restraint system (ECE/TRANS/WP.29/GRSP/2015/11) and (ii) its 01 series of amendments introducing (ECE/TRANS/WP.29/GRSP/2015/12).

Documentation

ECE/TRANS/WP.29/GRSP/56, para. 37
ECE/TRANS/WP.29/GRSP/2015/11
ECE/TRANS/WP.29/GRSP/2015/12
(ECE/TRANS/WP.29/GRSP/2014/10)
(ECE/TRANS/WP.29/GRSP/2014/23)
(GRSP-56-13-Rev.1) (GRSP-56-23-Rev.2)

16. Collective amendments to Regulations Nos. 14 and 16

GRSP will resume consideration on a proposal to clarify the provisions concerning the adjustment device for the height of the effective upper anchorage of the safety-belt (ECE/TRANS/WP.29/GRSP/2015/10).

Documentation

ECE/TRANS/WP.29/GRSP/56, para. 39
ECE/TRANS/WP.29/GRSP/2015/10
(GRSP-56-19)

17. Other business

(a) Exchange of information on national and international requirements on passive safety

GRSP may wish to exchange information about the ongoing national legislative developments on this subject. Moreover, GRSP agreed to continue sharing information on (i) Hydrogen Fuel Cell Motorcycle activities in Japan, (ii) Euro New Car Assessment Programme and (iii) KoreaNCAP results not examined during the December 2014 session for lack of time.

Documentation

ECE/TRANS/WP.29/GRSP/56, para. 41
GRSP-56-22
GRSP-56-29
GRSP-56-34

(b) Definitions and acronyms in the Regulations under the responsibilities of GRSP

GRSP may wish to continue discussion on this agenda item to update this subject.

Documentation

ECE/TRANS/WP.29/GRSP/56, para. 42

(c) Development of the International Whole Vehicle Type Approval (IWVTA) system and involvement of the Working Parties

GRSP will resume consideration of this agenda item on the basis of the outcome of the IWVTA IWG.

(d) Highlights of the March 2015 session of WP.29

GRSP will be briefed by the secretariat about the highlights of the March 2015 session of WP.29, on GRSP and common issues.

(e) Three-dimensional H-point machine

GRSP may wish consider the draft terms of references and the work progress of the IWG to harmonize provisions on the three-dimensional H-point machine.

Documentation

ECE/TRANS/WP.29/GRSP/56, para. 46

(f) Intelligent transport systems

GRSP may resume discussion on this agenda item.

United Nations ECE/TRANS/WP.29/GRSP/2015/1/Add.1

Economic and Social Council

Distr.: General
31 March 2015

English only

Economic Commission for Europe

Inland Transport Committee

World Forum for Harmonization of Vehicle Regulations

Working Party on Passive Safety

Fifty-seventh session
Geneva, 18–22 May 2015
Item 1 of the provisional agenda
Adoption of the agenda

Annotated provisional agenda for the fifty-seventh session

to be held at the Palais des Nations, Geneva, starting at 2.30 p.m. on Monday, 18 May 2015 and concluding at 12.30 p.m. on Friday, 22 May 2015

Addendum

1. **Page 5,**

Agenda item 7, documentation, *insert* ECE/TRANS/WP.29/GRSP/2015/15 and ECE/TRANS/WP.29/GRSP/2015/16

2. **Page 5,**

Agenda item 8, documentation, *insert* ECE/TRANS/WP.29/GRSP/2015/14

GE.15-06931 (E)
1506931

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United Nations ECE/TRANS/WP.29/GRSP/2015/2

Economic and Social Council

Distr.: General
27 February 2015

Original: English

Economic Commission for Europe

Inland Transport Committee

World Forum for Harmonization of Vehicle Regulations

Working Party on Passive Safety

Fifty-seventh session
Geneva, 18-22 May 2015
Item 3(a) of the provisional agenda
Global technical regulation No.9 (Pedestrian safety) – Proposal for Phase 2 of the global technical regulation

Proposal for amendments to global technical regulation No. 9 (Pedestrian safety)

Submitted by the expert from the European Commission as Chair of the Task Force on Bumper Test Area within the Informal Working Group on global technical regulation No. 9, Phase 2*

The text reproduced below was prepared by the experts in the Task Force on Bumper Test Area (TF-BTA) which is a subgroup of the Informal Working Group on global technical regulation No. 9, Phase 2. TF-BTA proposes an amendment to the provisions of the bumper test. This text is based on informal document GRSP-56-39 distributed at and endorsed during the fifty-sixth session of the Working Party on Passive Safety (GRSP)(ECE/TRANS/WP.29/GRSP/56, para. 9). The modifications to the current text of global technical regulation No. 9 are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2012–2016 (ECE/TRANS/224, para. 94 and ECE/TRANS/2012/12, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

GE.15-03847 (E)

1503847

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I. Proposal

Part B, Text of the Regulation,

Insert new paragraph 3.9., to read:

"3.9. **"*Bumper beam*" means the structural cross member under the bumper fascia protecting the front of the vehicle. The beam does not include foam, cover support or any pedestrian protection devices."**

Former paragraph 3.9., renumber as paragraph 3.10.

Former paragraph 3.10., renumber as paragraph 3.11. and amend to read:

"3.11. "*Bumper test area*" means ~~the frontal surface of the bumper limited by two longitudinal vertical planes intersecting the corners of the bumper and moved 66 mm parallel and inboard of the corners of the bumpers.~~ **either the front vehicle fascia between the left and right corner of bumper as defined in paragraph 3.14., minus the areas covered by the distance of 42 mm inboard of each corner of bumper, with this distance to be set from the most outboard point with a flexible tape held tautly along the outer surface of the vehicle, or the outermost ends of the bumper beam as defined in paragraph 3.9. (see Figure 5D), whichever area is wider."**

Former paragraphs 3.11. and 3.12., renumber as paragraphs 3.12. and 3.13.

Former paragraph 3.13., renumber as paragraph 3.14. and amend to read:

"3.14. "*Corner of bumper*" means **the transversal position of** the vehicle's point of contact with a ~~vertical plane which makes an angle of 60° with the vertical longitudinal plane of the vehicle and is tangential to the outer surface of the bumper (see Figure 5).~~**corner gauge as defined in Figure 5B.**

For determination of the corner of bumper, the front surface of the corner gauge is moved parallel to a vertical plane with an angle of 60° to the vertical longitudinal centre plane of the vehicle (see Figures 5A and 5C) at any height of the centre point of the corner gauge between:

(a) Equal to and above the point found on the vertical line intersecting the Lower Bumper Reference Line at the assessment position in transversal direction or at 75 mm above the ground reference plane, whichever is higher.

(b) Equal to and below the point found on the vertical line intersecting the Upper Bumper Reference Line at the assessment position in transversal direction or at 1,003 mm above the ground reference plane, whichever is lower.

For determination of the corner of bumper, the gauge is moved to contact the outer contour/front fascia of the vehicle touching at the vertical centre line of the gauge. The horizontal centre line of the gauge is kept parallel to the ground plane.

The corners of bumper on both sides are subsequently defined as the outermost points of contact of the gauge with the outer contour/front fascia of the vehicle as determined in accordance with this procedure. Any points of contact on the top and the bottom edges of the gauge are not taken into account. The rear and side view mirrors and the tyres shall not be considered."

Figure 5, amend to read:

"Figure 5A
Corner of bumper example (see paragraph 3.14., note that the corner gauge is to be moved in vertical and horizontal directions to enable contact with the outer contour/ front fascia of the vehicle)

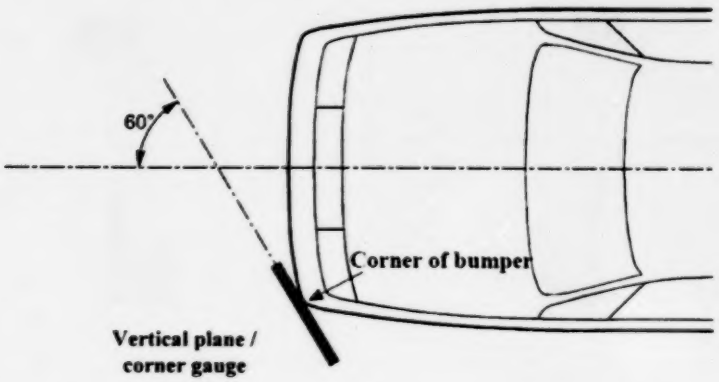
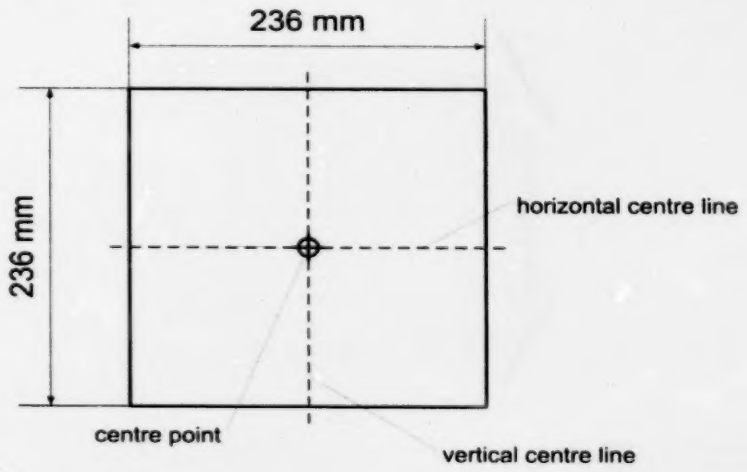


Figure 5B
Corner gauge



The front surface of the corner gauge is flat.

The centre point is the intersection of the vertical and horizontal centre lines on the front surface.

Figure 5C

Determination of the corner of bumper with the corner gauge (shown in random location)

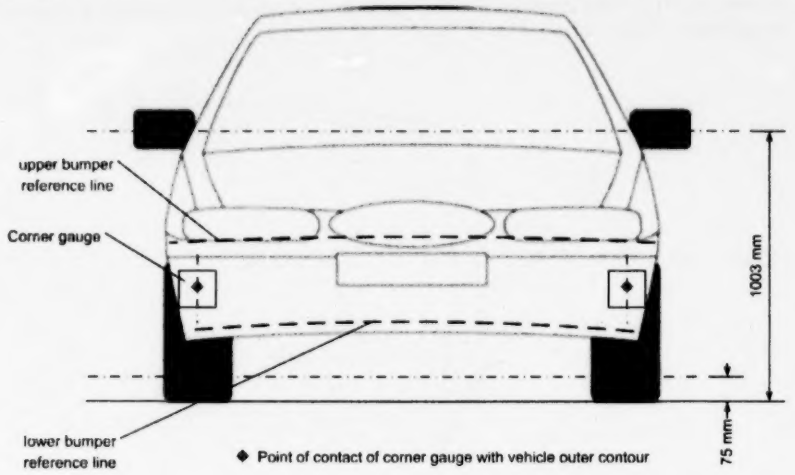
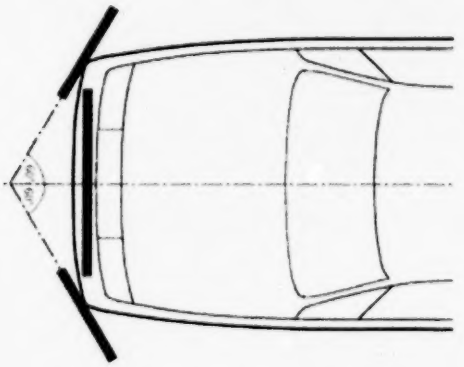

upper bumper reference line
Corner gauge
1003 mm
75 mm
lower bumper reference line
◆ Point of contact of corner gauge with vehicle outer contour

Figure 5D

Determination of bumper test area (note that the corner gauges are to be moved in vertical and horizontal directions to enable contact with the outer contour/front fascia of the vehicle)



"

Former paragraphs 3.14. to 3.29., renumber as paragraphs 3.15. to 3.30.

II. Justification

1. Research showed a need to revise the procedure for determining the bumper test area. The current provisions allow the area to be narrower than intended in the legislative provisions.

2. The TF-BTA held several meetings to assess the raised issue.

3. Findings show a probability that the cost/effectiveness as determined by legislators is negatively affected by the indicated shortcomings.

4. Detailed accident data give evidence of an equal distribution of first pedestrian contact at the front of passenger cars in crashes with at least one injury suffered from contact with a part of the vehicle front end.

5. For the bumper test area, the left and right corner of bumper are first determined through a revised method incorporating a corner gauge tracing the external front bumper fascia that determines the most outboard contact points.

6. During testing injurious points have been found outside test areas defined by measurements dependent on the outer contour, particularly at the ends of the bumper beam when they extend beyond the left and right corner of bumper. For this reason, the entire width of the bumper beam should also be included in the bumper test area in the second step. Lastly, the widest area is selected for assessment.

7. A clearer definition of what is the bumper beam is provided by the Research Council for Automobile Repairs.

8. The margin zone of half the width of the legform is needed to ensure stable measurement results on angled surfaces. As the bumper beam method is not linked to external fascia and its position/angle, the margin zone is not applied for the latter.

9. A proposal not including the bumper beam width as part of the test zone was also presented to GRSP at its December 2014 session, but was not endorsed awaiting the present proposal for amendment.

United Nations ECE/TRANS/WP.29/GRSP/2015/3

Economic and Social Council

Distr.: General
27 February 2015

Original: English

Economic Commission for Europe

Inland Transport Committee

World Forum for Harmonization of Vehicle Regulations

Working Party on Passive Safety

Fifty-seventh session
Geneva, 18-22 May 2015
Item 6 of the provisional agenda
Regulation No. 14 (Safety-belt anchorages)

Proposal for the 08 series of amendments to Regulation No. 14 (Safety-belt anchorages)

Submitted by the expert from the International Organization of Motor Vehicle Manufacturers *

The text reproduced below was prepared by the expert from the International Organization of Motor Vehicle Manufacturers (OICA), aimed at improving the provisions concerning vehicle of category M_1 having only one seat row and inuroducing a new definition of "bucket seat". This text is based on a document without symbol (GRSP-56-32) distributed during the fifty-sixth session of the Working Party on Passive Safety (GRSP). The modifications to the current text of UN Regulation No. 14 are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2012–2016 (ECE/TRANS/224, para. 94 and ECE/TRANS/2012/12, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

GE.15-03867 (E)

1503867

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I. Proposal

Paragraph 1., amend to read:

"1 This Regulation applies to:

(a) Vehicles of …

(b) Vehicles of category M_1 **having more than one seating position** with regard to their ISOFIX anchorage ...

(c) Vehicles of any ..."

Insert a new paragraph 2.33., to read:

"2.33. "Bucket seat" means a seat for a front passenger, having a non-adjustable seat back.

Such a seat shall have:

(a) Distinct side bolsters on both the cushion and the seat back that offer lateral support to the occupant

(b) A seat back angle fixed in relation to the seat base."

Paragraph 4.2., amend to read:

"4.2. An approval number shall be assigned to each type approved. Its first two digits (at present 08, corresponding to the 08 series of amendments) shall indicate … as defined in paragraph 2.2. above."

Insert new paragraphs 5.3.8.1. and 5.3.8.2., to read:

"5.3.8.1. No ISOFIX position or ISOFIX low anchorages shall be required on bucket seats, as defined in paragraph 2.33.

5.3.8.2. Vehicles with more than one seat row"

Paragraph 5.3.8.1.(former), renumber as paragraph 5.3.8.2.1. and amend to read:

"5.3.8.2.1. Subject to the provisions of paragraphs 5.3.8.2.2. to 5.3.8.2.4 below, ~~Any~~ vehicles of category M_1 shall be equipped at least with two ISOFIX positions which satisfy the requirements of this Regulation.

At least two of the ISOFIX positions shall be equipped both with an ISOFIX anchorages system and an ISOFIX top tether anchorage.

The type and number of ISOFIX fixtures, defined in Regulation No. 16, which can be installed on each ISOFIX position are defined in Regulation No. 16.

At least one of the two ISOFIX positions shall be installed in the second seat row."

Insert new paragraph 5.3.8.2.2., to read:

"5.3.8.2.2. **Convertible vehicles as defined in 2.9.1.5. of the Consolidated Resolution on the Construction of Vehicles (R.E.3)[1] shall be fitted with at least two ISOFIX low anchorages. In a case where an ISOFIX top tether anchorage is provided on such vehicles, it shall comply with the suitable provisions of this Regulation."**

Paragraphs 5.3.8.2. and 5.3.8.3., shall be deleted

[1] ~~Document~~ ECE/TRANS/WP.29/78/Rev.2, para.2.

Paragraph 5.3.8.4.(former), renumber as paragraph 5.3.8.2.3. and amend to read:

"5.3.8.2.3. ~~Notwithstanding paragraph 5.3.8.1. vehicles of category M, need to have o~~Only one ISOFIX position ~~system~~ **is required infor** vehicles with:

(a) …

…"

Insert new paragraphs 5.3.8.2.4. to 5.3.8.3.4., to read:

"**5.3.8.2.4. If a vehicle is only equipped with one seat position per row, only one ISOFIX position is required in the passenger position. In a case where an ISOFIX top tether anchorage is provided on such vehicles, it shall comply with the suitable provisions of this Regulation. However, where it is not possible to install even the smallest forward-facing ISOFIX fixture (as defined in Regulation No. 16, Appendix 2, of Annex 17) in the passenger seating position then no ISOFIX position shall be required, provided that a child restraint system is specified for the vehicle.**

5.3.8.3. Vehicles with only one seat row

5.3.8.3.1. Subject to the provisions of paragraphs 5.3.8.3.3 and 5.3.8.3.4., an ISOFIX position which satisfies the requirements of this Regulation shall be provided. This ISOFIX position shall be equipped with an ISOFIX anchorages system and an ISOFIX top tether anchorage.

5.3.8.3.2. Subject to the provisions of paragraphs 5.3.8.3.3 and 5.3.8.3.4., convertible vehicles as defined in paragraph 2.9.1.5. of the Consolidated Resolution on the Construction of Vehicles (R.E.3), shall be equipped with at least two ISOFIX low anchorages. Where an ISOFIX top tether anchorage is provided on such vehicles, it shall comply with the suitable provisions of this Regulation.

5.3.8.3.3. Where it is not possible to install even the smallest forward-facing ISOFIX fixture (as defined in Regulation No. 16, Appendix 2, of Annex 17) in the passenger seating position then no ISOFIX position or ISOFIX low anchorages shall be required, provided that a child restraint system is specified for that vehicle.

5.3.8.3.4. If the vehicle has a Power to Mass Ratio index (PMR according to the definitions in 5.3.8.2.3.) exceeding 140, no ISOFIX position or ISOFIX low anchorages shall be required."

Paragraphs 5.3.8.5.(former), renumber as paragraphs 5.3.8.4.

Paragraph 5.3.8.6.(former), renumber as paragraph 5.3.8.5. and amend to read:

"5.3.8.5. ~~Notwithstanding paragraph 5.3.8.1. i~~In case of integrated "built in" child restraint system(s) the number of ISOFIX positions to be provided shall be ~~at least two minus~~ **reduced by** the number of the integrated "built in" child restraint system(s) of mass groups 0, or 0+, or 1."

Paragraphs 5.3.8.7. and 5.3.8.8., shall be deleted

Paragraphs 5.3.8.9. and 5.3.8.10.(former), renumber as paragraphs 5.3.8.6. and 5.3.8.7. and amend to read:

"5.3.8.6. ~~Notwithstanding paragraph 5.3.8.1.,~~ ISOFIX positions are not required in ambulances or hearses as well as vehicles intended for use by the armed services, civil defence, fire services and forces responsible for maintaining public order.

5.3.8.7. Notwithstanding the provisions **above** ~~of paragraph 5.3.8.1. to 5.3.8.4.~~, one or more of the mandatory ISOFIX positions may be replaced by i-Size seating positions."

Paragraphs 14. to 14.19., amend to read:

"14. Transitional provisions

14.1. As from the official date of entry into force of the 06 series of amendments, no Contracting Party applying this Regulation shall refuse to grant ECE approvals under this Regulation as amended by the 06 series of amendments.

14.2. As from 2 years after the enter into force of the 06 series of amendments to this Regulation, Contracting Parties applying this Regulation shall grant ECE type approvals only if the requirements of this Regulation, as amended by the 06 series of amendments, are satisfied.

14.3. As from 7 years after the enter into force of the 06 series of amendments to this Regulation, Contracting Parties applying this Regulation may refuse to recognize approvals which were not granted in accordance with the 06 series of amendments to this Regulation. However, **Contracting Parties applying this Regulation shall continue to accept** existing approvals of the vehicle categories which are not affected by the 06 series of amendments to this Regulation ~~shall remain valid and Contracting Parties applying this Regulation shall continue to accept them~~.

14.4. For vehicles not affected by paragraph 7.1.1. above, **Contracting Parties applying this Regulation shall continue to accept** approvals granted according to the 04 series of amendments to this Regulation ~~shall remain valid~~.

14.5. For vehicles not affected by Supplement 4 to the 05 series of amendments to this Regulation **Contracting Parties applying this Regulation shall continue to accept** the existing approvals ~~shall remain valid~~, if they had been granted in compliance with the 05 series of amendments, up to its Supplement 3.

14.6. As from the official date of entry into force of Supplement 5 to the 05 series of amendments, no Contracting Party applying this Regulation shall refuse to grant approvals under this Regulation as modified by Supplement 5 to the 05 series of amendments.

14.7. For vehicles not affected by Supplement 5 to the 05 series of amendments to this Regulation **Contracting Parties applying this Regulation shall continue to accept** the existing approvals ~~shall remain valid~~, if they had been granted in compliance with the 05 series of amendments, up to its Supplement 3.

14.8. As from 20 February 2005 for vehicles of category M_1, Contracting Parties applying this Regulation shall grant approvals only if the requirements of this Regulation, as amended by Supplement 5 to the 05 series of amendments, are satisfied.

14.9. As from 20 February 2007 for vehicles of category M_1, Contracting Parties applying this Regulation may refuse to recognize approvals which were not granted in accordance with Supplement 5 to the 05 series of amendments to this Regulation.

14.10. As from 16 July 2006 for vehicles of category N, Contracting Parties applying this Regulation shall grant approval only if the vehicle type satisfies

the requirements of this Regulation as amended by the Supplement 5 to the 05 series of amendments.

14.11. As from 16 July 2008 for vehicles of category N, Contracting Parties applying this Regulation may refuse to recognize approvals not granted in accordance with Supplement 5 to the 05 series of amendments to this Regulation.

14.12. As from the official date of entry into force of the 07 series of amendments, no Contracting Party applying this Regulation shall refuse to grant approvals under this Regulation as amended by the 07 series of amendments.

14.13. As from 24 months after the date of entry into force of the 07 series of amendments, Contracting Parties applying this Regulation shall grant approvals only if the requirements of this Regulation, as amended by the 07 series of amendments, are satisfied.

14.14. As from 36 months after the date of entry into force of the 07 series of amendments, Contracting Parties applying this Regulation may refuse to recognize approvals which were not granted in accordance with the 07 series of amendments to this Regulation.

14.15. Notwithstanding paragraphs 14.13. and 14.14., **Contracting Parties applying the Regulation shall continue to accept** approvals of the vehicle categories to the preceding series of amendments to the Regulation which are not affected by the 07 series of amendments ~~shall remain valid and Contracting Parties applying the Regulation shall continue to accept them~~.

14.16. As long as there are no requirements concerning the compulsory fitting of safety-belt anchorages for folding seats in their national requirements at the time of acceding to this Regulation, Contracting Parties may continue to allow this non-fitment for the purpose of national approval and in this case these bus categories cannot be type approved under this Regulation.

14.17. As from the official date of entry into force of Supplement 2 to the 07 series of amendments, no Contracting Party applying this Regulation shall refuse to grant type approval under this Regulation as amended by Supplement 2 to the 07 series of amendments.

14.18. As from 12 months after the official date of entry into force of Supplement 2 to the 07 series of amendments, Contracting Parties applying this Regulation shall grant type approvals only to those types of vehicle which comply with the requirements of this Regulation as amended by Supplement 2 to the 07 series of amendments.

14.19. Contracting Parties applying this Regulation shall not refuse to grant extensions of approvals, even if Supplement 2 to the 07 series of amendments is not fulfilled.

14.20. As from the official date of entry into force of the 08 series of amendments, no Contracting Party applying this UN Regulation shall refuse to grant or refuse to accept UN type approvals under this UN Regulation as amended by the 08 series of amendments.

14.21. As from 1 September 2019, Contracting Parties applying this Regulation shall grant type approvals only to those types of vehicle which comply with the requirements of this Regulation as amended by the 08 series of amendments.

14.22. **Contracting Parties applying the Regulation shall continue to accept approvals of the vehicle categories to the preceding series of amendments to the Regulation, granted before 1 September 2019.**

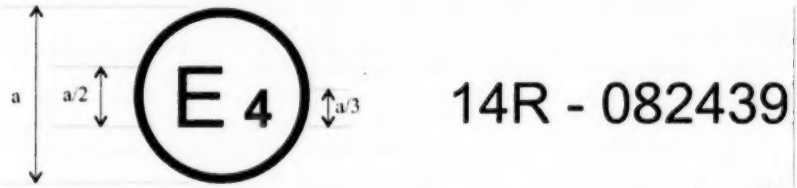
14.23. **Contracting Parties applying this UN Regulation shall not refuse to grant extensions of UN type approvals for existing types which have been granted on the basis of those provisions already covered by the approval."**

Annex 2, amend to read:

"Annex 2

Arrangements of the approval mark

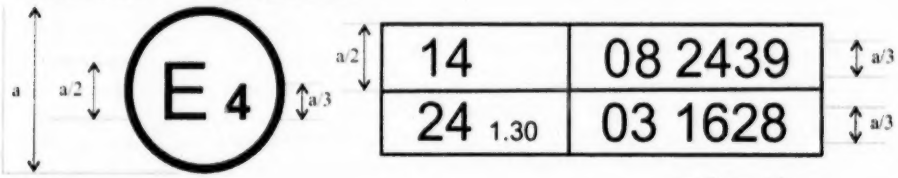
Model A
(see paragraph 4.4. of this Regulation)



a = 8 mm min.

The above approval … pursuant to Regulation No. 14, under the number 082439. The first two digits of the approval number indicate that Regulation No. 14 already included the 08 series of amendments when the approval was given.

Model B
(see paragraph 4.5. of this Regulation)



a = 8 mm min.

The above approval mark … Regulation No. 14 included the 08 series of amendments and Regulation No. 24 was in its 03 series of amendments."

II. Justification

The current proposal prepared by the expert from OICA, is aimed at improving the provisions concerning vehicle of category M_1 having only one seat row and introducing a new definition of "bucket seat".

United Nations ECE/TRANS/WP.29/GRSP/2015/4

Economic and Social Council

Distr.: General
27 February 2015

Original: English

Economic Commission for Europe

Inland Transport Committee

World Forum for Harmonization of Vehicle Regulations

Working Party on Passive Safety

Fifty-seventh session
Geneva, 18-22 May 2015
Item 7 of the provisional agenda
Regulation No. 16 (Safety-belts)

Proposal for Supplement 6 to the 06 series of amendments to Regulation No. 16 (Safety-belts)

Submitted by the expert from the European Association of Automotive Suppliers *

The text reproduced below was prepared by the expert from the European Association of Automotive Suppliers (CLEPA) aimed at clarifying the provisions for dynamic testing of the rear seat system and on advanced restraint system approval. This text is based on an informal document GRSP-56-10 distributed during the fifty-sixth session of the Working Party on Passive Safety (GRSP). The modifications to the current text of UN Regulation No. 16 are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2012–2016 (ECE/TRANS/224, para. 94 and ECE/TRANS/2012/12, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

GE.15-03874 (E)

1503874

Please recycle

I. Proposal

Paragraph 2.8, amend to read:

"2.8. *"Airbag assembly"* means a device … of the passenger compartment. **Any such deployed structure shall not be considered as rigid part."**

Paragraph 6.4.1.3.3., amend to read:

"6.4.1.3.3. In the case of a safety-belt intended to be used in ~~an outboard front~~ **a** seating position protected by an airbag ..."

Paragraph 6.4.1.4.1., amend to read:

"6.4.1.4.1. The movement of the chest reference … in the dynamic test would have come into contact with any forward rigid part of the vehicle. ~~other than the chest with the steering assembly, if the latter meets the requirements of Regulation No. 12 and provided contact does not occur at a speed higher than 24 km/h. For this assessment the seat shall be considered to be in the position specified in paragraph 7.7.1.5. below.~~"

Insert new paragraphs 6.4.1.4.1.1. and 6.4.1.4.1.2., to read:

"6.4.1.4.1.1. In the case of the driver, contact of the chest with the steering assembly would be allowed, if the latter meets the requirements of Regulation No. 12 and provided contact does not occur at a vehicle speed higher than 24 km/h.

For the assessment of the requirements in paragraphs 6.4.1.4.1. and 6.4.1.4.1.1. the seat shall be considered to be in the positions specified in paragraph 7.7.1.5. below.

6.4.1.4.1.2. In the case of any other occupant, contact with any rigid part of the vehicle in front of the dummy would be allowed, if the dummy contact meets the requirements of Regulations Nos. 21 or 17, provided that the contact occurs at a speed lower than 24 km/h and without contact between the manikin's head and its knees.

For the assessment of the requirements in paragraphs 6.4.1.4.1. and 6.4.1.4.1.2. the seat of the tested manikin and if applicable the seat in front of the manikin shall be considered to be in the positions specified in paragraph 7.7.1.6. below."

Paragraph 7.7.1.5., amend to read:

"7.7.1.5. For the assessment of the requirements in paragraph 6.4.1.4.1. **and 6.4.1.4.1.1.** the seat shall be regarded in its most forward driving or travelling position appropriate to the dimensions of the manikin. **In case of the alternative, conventional frontal impact test, of paragraph 7.7.1.1. above, the seat back angle of the tested seat shall be adjusted at 10°, measured with the 3-D machine following the "Procedure for Determining the "H" Point and the actual Torso Angle for Seating Positions in Motor Vehicles" under Annex 4 to Regulation No. 14.**

Insert a new paragraph 7.7.1.6., to read:

"7.7.1.6. For the assessment of the requirements in paragraphs 6.4.1.4.1. and 6.4.1.4.1.2. the seat of an occupant in the front shall be in its most forward driving or travelling position according to the dimensions of the manikin.

In case of an alternative, conventional frontal impact test, of paragraph 7.7.1.1. above, the seat back angle of the tested seat shall be adjusted at 10°, measured with the 3-D machine following the "Procedure for Determining the "H" Point and the actual Torso Angle for Seating Positions in Motor Vehicles" under Annex 4 to Regulation No. 14.

For any testing position of rear seated occupants, the position of the tested seat, if adjustable shall be regarded in its rearmost and lowest position.

Any contour of a seat in front of a tested seating position shall be in the R-Point seating position and with a seat back angle at 10°, as derived from the 3-D H Point machine.

In case the manikin geometry limits the R-Point position, the front seat may be adjusted by an incremental forward movement of the seat unless this option does not exist."

. . .

Paragraphs 7.7.1.6. and 7.7.1.7.(former), renumber as paragraphs 7.7.1.7. and 7.7.1.8.

Paragraph 15.3.3., amend to read:

"15.3.3. Even after the date … continue to accept them, and Contracting Parties may continue to grant extensions of **components and separate technical units** approvals to the **04 or** 05 series of amendments."

Annex 14, paragraph 2.2.3., amend to read:

"2.2.3. Results

Test results shall meet the requirements set out in paragraph 6.4.1.3.1. of this Regulation.

The forward displacement of the manikin may be controlled with regard to paragraph 6.4.1.3.2. of this Regulation (or 6.4.1.4. where applicable) during a test performed with conditioning according to paragraph **1.6.** of this annex by means of a simplified adapted method.

A simplified adapted method could be e.g. the use of a reference chest speed measured at 300 mm forward displacement in a test without an airbag, carried out by the technical service in charge of the conformity of production and to be considered in the control of conformity control plan."

II. Justification

The proposed draft for amending UN Regulation No. 16 is motivated by the following arguments:

1. Alignment of requirement for front and rear seated occupants;

2. Details of the test setup of dynamic testing in case of the belt assembly or of the restraint system;

3. Enable the installation of advanced restraint systems by the certainty of a clear type approval process also for rear seated occupants;

4. Define a minimum technical standard for the limitation of seat belt loads;

5. Clarify the role of inflatable protective structures to be part of the restraint system and no rigid parts. Discussions on this took place with technical services;

6. Indicate on a simplified adapted method to derive a common understanding for all parties involved such as technical services or manufacturers.

United Nations ECE/TRANS/WP.29/GRSP/2015/5

Economic and Social Council

Distr.: General
27 February 2015

Original: English

Economic Commission for Europe

Inland Transport Committee

World Forum for Harmonization of Vehicle Regulations

Working Party on Passive Safety

Fifty-seventh session
Geneva, 18-22 May 2015
Item 10 of the provisional agenda
Regulation No. 44 (Child restraint systems)

Proposal for Supplement 10 to the 04 series of amendments to Regulation No. 44 (Child restraint systems)

Submitted by the expert from Spain*

The text reproduced below was prepared by the expert from Spain on behalf of the Technical Services Group (TSG) to improve dynamic test provisions for Child Restraint Systems (CRS) and to cope with the presence of load limiters on safety belts used to fix CRS. This text is based on an informal document GRSP-56-06 distributed during the fifty-sixth session of the Working Party on Passive Safety (GRSP). The modifications to the current text of UN Regulation No. 44 are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2012–2016 (ECE/TRANS/224, para. 94 and ECE/TRANS/2012/12, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

GE.15-03895 (E)
1503895

Please recycle

I. Proposal

Insert new paragraphs 2.41. to 2.43., to read:

"**2.41.** **"*Child Restraint System Displacement system*" means a device enabling the CRS or one of its parts to be displaced angularly or longitudinally.**

2.42. **"*Child Restraint System Locking system*" means a device ensuring that the CRS and its parts are maintained in the position of use.**

2.43. **"*Load limiting device*" means a device that can break or jam under specified loading conditions. The device shall be explicitly designed for these conditions and its behaviour shall be reproducible and objectively documented in the technical documentation.**"

Paragraph 3.2.1., amend to read

"3.2.1. A technical description of the child restraint, specifying the straps and other materials used **together with the predicted and reproducible behaviour of load limiting devices. It shall be** ~~and~~ accompanied by … The description shall mention the colour of the model submitted for approval."

Paragraph 4.3., amend to read:

"4.3. If the restraint … by colour coding. The colours for the safety-belt route to be used when the device is installed forward facing shall be red and when installed rear-facing shall be blue. **Devices that can be installed rearward and forward facing without changing the belt routing (e.g. turnable system) shall use both colours.** The same colours shall also be used on the labels on the device that illustrate the methods of use.

There shall be a clear differentiation …"

"*Paragraph 7.1.4.1.4.*, amend to read

7.1.4.1.4. During the dynamic tests, no part of the child restraint actually helping to keep the child in position shall break, and no buckles or locking system or displacement system **or support leg shall break or** release **or collapse, except where identified as a load limiting device. Any load limiting device shall be clearly identified in the manufacturer's technical descriptions as defined in paragraph 3.2.1. of this Regulation.**"

Paragraph 7.1.4.1.10.1.2., amend to read:

"7.1.4.1.10.1.2. Without the anti-rotation device in use. **If the anti-rotation device is a support leg and it can be completely recessed within the base or the shell of the CRS, the test is conducted with the device in its stowed position or with the leg removed respectively. If it cannot be completely recessed within the base, the test is performed with the device deployed in its shortest length with the trolley floor pan in its lowest position.**

This requirement does not apply when a permanent and non-adjustable support leg is used as an anti-rotation device."

Paragraph 8.1.3.6.3.2., amend to read

"8.1.3.6.3.2. Place the child chair on the test seat.

Place the manikin in the child chair.

For restraints or straps acting directly on a retractor or adult three point safety belt, where no lock off device or any system able to inhibit the action of the retractor is used:

(a) Fit the belt in accordance with the manufacturer's instructions.

(b) Complete the installation of the child chair to the test seat in accordance with Annex 21 to this Regulation.

For all other restraints:

(a) Place a hinged board or a similar flexible device 2.5 cm thick and 6 cm wide and of length equal to the shoulder height (sitting, Annex 8) less the hip centre height (sitting, in Annex 8 popliteus height plus half of thigh height, sitting) relevant to the manikin size being tested between the manikin and the seat back of the chair. The board should follow as closely as possible the curvature of the chair and its lower end should be at the height of the manikin's hip joint.

(b) Adjust the belt in accordance with the manufacturer's instructions, but to a tension of 250 ± 25 N above the adjuster force, with a deflection angle of the strap at the adjuster of 45 ± 5°, or alternatively, the angle prescribed by the manufacturer.

(c) Complete the installation of the child chair to the test seat in accordance with Annex 21 to this Regulation.

(d) Remove the flexible device.

~~Place a hinged board or a similar flexible device 2.5 cm thick and 6 cm wide and of length equal to the shoulder height (sitting, Annex 8) less the hip centre height (sitting, in Annex 8 popliteus height plus half of thigh height, sitting) relevant to the manikin size being tested between the manikin and the seat back of the chair. The board should follow as closely as possible the curvature of the chair and its lower end should be at the height of the manikin's hip joint.~~

~~Adjust the belt in accordance with the manufacturer's instructions, but to a tension of 250 ± 25 N above the adjuster force, with a deflection angle of the strap at the adjuster of 45 ± 5°, or alternatively, the angle prescribed by the manufacturer.~~

~~Complete the installation of the child chair to the test seat in accordance with Annex 21 to this Regulation.~~

~~Remove the flexible device.~~

~~This only applies to harness restraints and to restraints where the child is restrained by the adult three point belt and where a lock off device is used and does not apply to child restraining straps connected directly to a retractor.~~"

Paragraphs 8.2.5.2.6.2. to 8.2.5.2.6.3.2., amend to read:

"8.2.5.2.6.2. The table below sets out the general conditions for each test:

	Load (N)	*Cycles per minute*	*Cycles (No.)*
Type 1 procedure	~~10~~ **≤ 60** ± 0.~~15~~	30 ± 10	1,000 ± 5
Type 2 procedure	~~5~~ **10** ± 0.~~05~~**1**	30 ± 10	5,000 ± 5

~~Where there is insufficient strap to test over 300 mm of shift, the test may be applied over a shorter length subject to a minimum of 100 mm.~~

8.2.5.2.6.3. Particular test conditions

8.2.5.2.6.3.1. Type 1 procedure: for cases where the strap slides through the quick adjusting device. **Apply a load of 10 N, if necessary the load may be increased by 10 N steps so as to permit correct sliding, but limited to a maximum of 60 N. This** ~~The 10 N~~ load shall be vertically and permanently applied on ~~one of~~ the straps. The ~~other~~ **part of the** strap set horizontally **shall pass through the quick adjuster it is fitted to and** shall be attached to a device, giving the webbing a back and forth motion. The **quick** adjusting device shall be so placed that the horizontal strap of the webbing remains under tension (see Annex 5, Figure 1). **Activate the quick adjuster while pulling the straps in the direction to slacken the harness and deactivate it while pulling the straps in the direction to tighten the harness.**

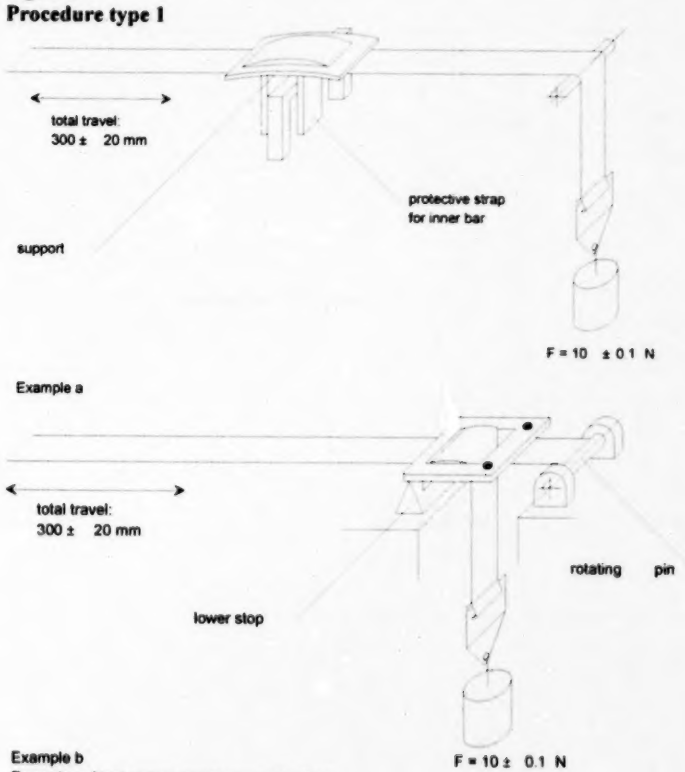
8.2.5.2.6.3.2. Type 2 procedure: for cases where the strap changes direction in passing through a rigid part. During this test, the ~~angles of both~~ webbing ~~straps~~ shall **pass through the rigid part it is intended for and the test set up shall reproduce the angles as in the real installation (in three dimensions), see** ~~be as shown in~~ Annex 5, Figure 2 **for examples**. The ~~5~~ **10** N load shall be permanently applied. For cases where the strap changes direction more than once in passing through a rigid part, the load of ~~5~~ **10** N may be increased **by 10 N steps** so as to **permit correct sliding and** achieve the prescribed 300 mm of strap movement through that rigid part."

Annex 5, amend to read:

"Annex 5

Abrasion and microslip test

Figure 1
Procedure type 1

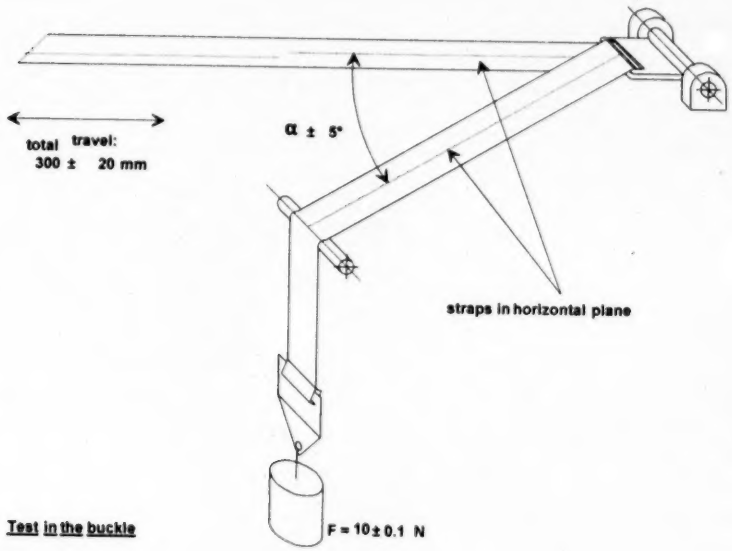


Example b
Examples of test arrangements corresponding
to the type of adjusting device

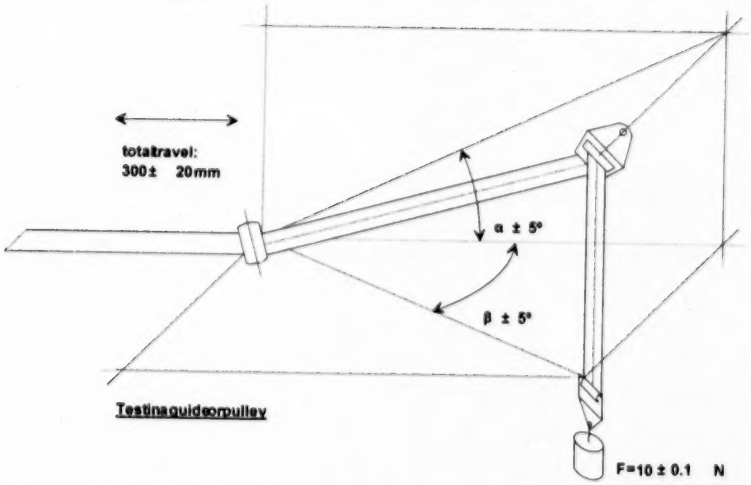
Remark. F = 10 ± 0.1 N, can be increased up to F = 60 ± 0.5 N

Figure 2
Procedure type 2
Following two examples of test set up;

Example 1



Example 2



Where α and β reproduce the angles as in the real installation (in three dimensions).

..."

Annex 15

Insert new explanatory notes on paragraphs 7.1.4.1.4., 7.1.4.1.10.1.2., 8.1.3.6.3.2. and 10.1.3., to read:

"Paragraph 7.1.4.1.4.

The paragraph aims to ensure that the CRS will sustain all imposed loads during the dynamic test, keeping the child in position, by maintaining the original position and configuration. Any change in the original configuration, including change in the reclining position or in the support leg length shall be considered a failure. Any load bearing part or component failure, like adult safety belt contact points (identified as a belt route), anti-rotation device or CRS chair shell shall be considered a failure, except where such behaviour is clearly identified as load limiting device function.

Paragraph 7.1.4.1.10.1.2.

Completely recessed means that with the leg in the stowed position, no part of the leg protrudes beyond the surface of the base or shell, such that it has no effect on the position of the CRS on the test bench. See the following figures for clarification examples.

Figure 1
Examples of completely recessed support leg

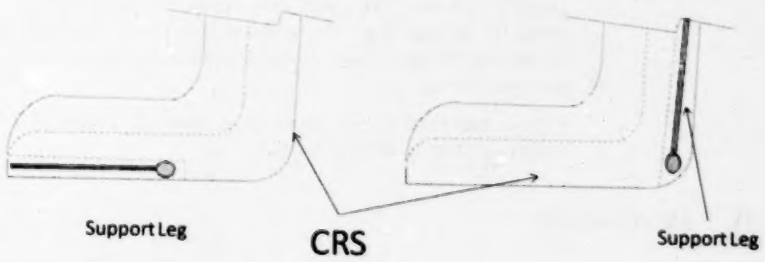
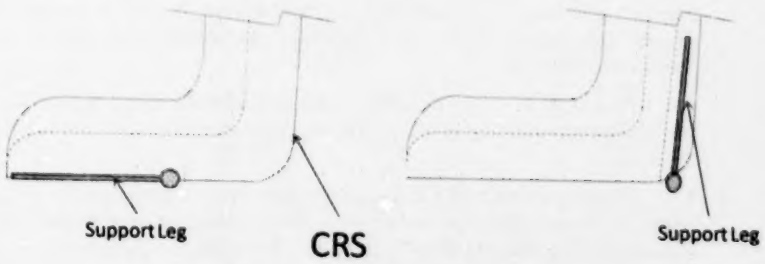


Figure 2
Examples of not completely recessed support leg



Paragraph 8.1.3.6.3.2.

The hinged board or similar flexible device is intended to simulate the removal of clothing from the child and a failure to re-adjust the harness system. Where the child is restrained by a system that adjusts to fit the child's physique without external intervention (where the adult belt is used or the harness contains automatic or emergency locking retractors), it shall not be necessary to use the hinged board. For child restraint systems where the length of the straps can be fixed (for example a harness without retractors or the adult belt is used with a lock-off), the use of the hinged board is required. The hinged board must be used for the setup of CRS using belted impact shields.

Paragraph 10.1.3.

10.1.3. **In the case of extensions where the modifications affect only one CRS group, perform extension test only for that group, and if the excursion result is worse than for the previous worst case for the CRS (from any group from the original approval or previous extensions) then conduct new production qualification tests. If the head excursion is no worse than any other previous approval or extension testing (excluding PQ tests) further production qualification testing is not required.**

In cases where the extension modifications affect more than one group, for example if extending a group 2/3 CRS to add group 1, but the modification can affect group 2/3 (e.g.: strengthening), than perform group 1 tests and the worst case group 2/3 (original approval). If any result is worse than the original approval or previous extension (excluding PQ tests) then perform production qualification tests on the new worst case.

Always compare to the worst case from all approval and extension testing (excluding any PQ tests)."

II. Justification

1. Paragraphs 2.41. to 2.43.: Proposal to clarify failures during dynamic test.

2. Paragraphs 3.2.1. and 7.1.4.1.4., and explanatory note on paragraph 7.1.4.1.4. of Annex 15: The current text does not define CRS displacement or locking systems and does not clearly states if their failures have to be considered a failure or not. Proposed modification introduced these definitions, adding clearer failure specifications, to the support leg as well. The possibility to use "load limiting device" as in Regulation No. 129 has also been considered. Annex 15 has been also amended to introduce an explanatory note on this matter.

3. Paragraph 4.3.: Colour coding for products that can change installation direction in the vehicle without changing the belt routing (e.g. turnable system) was not covered by the text.

4. Paragraph 7.1.4.1.10.1.2. and explanatory note on paragraph 7.1.4.1.10.1.2. under Annex 15: Better definition on how to perform misuse test was needed. Introduced text aims at clarifying how to perform misuse test when a support leg is used.

5. Paragraph 8.1.3.6.3.2.: The original text did not describe the set up for CRS restraining the child using adult safety belt or retractors. The modification includes this condition adding some clarification for particular cases.

6. Paragraphs 8.2.5.2.6. to 8.2.5.2.6.3.2.: Introduced modification intend to better reproduce real life functioning and to clarify test procedure. Applied load has been increased to exceed maximum allowed resistance to permit sliding of the strap through the quick adjuster and through rigid parts; tolerances have been increased accordingly; option for shorter shift has been removed since it is unnecessary (test on strap, not on complete component); drawings modify to be consistent with the text.

7. Annex 5: Drawing modified to be consistent with new paragraphs 8.2.5.2.6. to 8.2.5.2.6.3.2.

8. Annex 15, explanatory note on paragraph 10.1.3.: Clarification about how to handle extension test results to ascertain whether a further PQ test is needed was deemed necessary.

United Nations ECE/TRANS/WP.29/GRSP/2015/6

Economic and Social Council

Distr.: General
27 February 2015

Original: English

Economic Commission for Europe

Inland Transport Committee

World Forum for Harmonization of Vehicle Regulations

Working Party on Passive Safety

Fifty-seventh session
Geneva, 18-22 May 2015
Item 10 of the provisional agenda
Regulation No. 44 (Child restraint systems)

Proposal for Supplement 10 to the 04 series of amendments to Regulation No. 44 (Child restraint systems)

Submitted by the expert from the European Association of Automotive Suppliers *

The text reproduced below was prepared by the expert from the European Association of Automotive Suppliers (CLEPA) to update the references to the European standard on toxicity and flammability of materials used to manufacture Child Restraint Systems (CRS). This text is based on an informal document GRSP-56-26 distributed during the fifty-sixth session of the Working Party on Passive Safety (GRSP). The modifications to the current text of UN Regulation No. 44 are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2012–2016 (ECE/TRANS/224, para. 94 and ECE/TRANS/2012/12, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

GE.15-03898 (E)

1503898

Please recycle

I. Proposal

Paragraph 6.1.5., amend to read

"6.1.5. ~~The child restraint manufacturer has to declare in written form that the toxicity of materials used in the manufacture of restraint systems and accessible to the restrained child is in conformity with the relevant parts of EN 71:2009, part 3. Tests confirming the validity of the declaration may be carried out at the discretion of the test authority. This paragraph does not apply to restraint devices of groups II and III.~~

The Child Restraint System manufacturer shall declare in writing that the toxicity of materials used in the manufacture of restraint systems and accessible to the restrained child is in conformity with the relevant parts of EN 71-3:2013 (paragraph 4.2., Table 2, Category III for specific requirements and paragraph 7.3.3. for test methodology). Tests confirming the validity of the declaration may be carried out at the discretion of the Technical Service. This paragraph does not apply to restraint devices of groups II and III."

Paragraph 6.1.6., amend to read

"6.1.6. ~~The child restraint manufacturer has to declare in written form that the flammability of materials used to manufacture the restraint system is in conformity with the parts of EN 71:2009 part 2. Tests confirming the validity of the declaration may be carried out at the discretion of the test authority.~~

The Child Restraint System manufacturer shall declare in writing that the flammability of materials used to manufacture the Child Restraint System is in conformity with the method of section 5.4 of EN 71-2:2011+A1:2014 with a maximum rate of spread of flame of 30 mm/s. Tests confirming the validity of the declaration may be carried out at the discretion of the Technical Service. Where fabrics are assembled together, these shall be tested as a composite."

II. Justification

A. Toxicology

1. Paragraph 6.1.5: In EN71-3, Category III is chosen because this category includes textile products. The amendment refers also to a test method that was not described in the current text of UN Regulation No. 44.

B. Flammability

2. Paragraph 6.1.6: The objective of the amendment is to clearly reference relevant section of EN 71 with its latest version (2014) and related test method, and to provide a limit in terms of maximum burning rate. In EN 71-2, the test method of 5.4 is dedicated to products similar to child restraint systems.

United Nations ECE/TRANS/WP.29/GRSP/2015/7

Economic and Social Council

Distr.: General
27 February 2015

Original: English

Economic Commission for Europe

Inland Transport Committee

World Forum for Harmonization of Vehicle Regulations

Working Party on Passive Safety

Fifty-seventh session
Geneva, 18-22 May 2015
Item 12 of the provisional agenda
Regulation No. 94 (Frontal collision)

Proposal for 03 series of amendments to Regulation No. 94 (Frontal collision)

Submitted by the expert from France as Chair of the Informal Working Group on Frontal Impact*

The text reproduced below was prepared by the expert from France, who is Chair of the informal Working Group (IWG) on Frontal Impact (FI). It introduces the modifications needed in UN Regulation No. 94 (Frontal Collision) as proposed by the experts of the IWG on FI. It supersedes ECE/TRANS/WP.29/GRSP/2014/22 and is based on an informal document GRSP-56-15-Rev.2 distributed during the fifty-sixth session of the Working Party on Passive Safety (GRSP). The modifications to the text of the UN Regulation are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2012–2016 (ECE/TRANS/224, para. 94 and ECE/TRANS/2012/12, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

GE.15-03918 (E)

1503918

Please recycle

I. Proposal

Paragraph 2.13. to 2.14., shall be deleted:

Paragraph 3.1., amend to read:

"3.1. The application for approval of a vehicle type with regard to the protection of the occupants of the front seats in the event of a frontal collision **(offset deformable barrier test)** shall be submitted by the vehicle manufacturer or by his duly accredited representative."

Paragraph 4.2., amend to read:

"4.2. …(at present ~~02~~ **03** corresponding to the ~~02~~ **03** series of amendments) …"

Paragraphs 5.1.2. to 5.1.3., shall be deleted:

Paragraph 5.2.1.2., amend to read:

"5.2.1.2. The ~~Neck~~ **Injury Criteria for the neck** (NIC) shall not exceed the values shown in Figures 1 and 2;[1]

…"

Paragraph 5.2.1.4., amend to read:

"5.2.1.4. The thorax compression criterion, (ThCC) shall not exceed ~~50~~ **42 mm**;"

Paragraph 5.2.2., amend to read:

"5.2.2. **Following the test the** residual steering wheel displacement, **when** measured at the centre of the steering wheel hub, shall not exceed 80 mm in the upwards vertical direction and 100 mm in the rearward horizontal direction."

Paragraphs 6.1.2. to 6.2.3., shall be deleted

Paragraph 7.1., amend to read:

"7.1. Any modification affecting the structure, the number of **front** seats, the interior trim or fittings, …:"

Paragraph 7.1.2.2., amend to read:

"7.1.2.2. If the modifications concern only the interior fittings, if the mass does not ~~differ~~ **increase** by more than 8 per cent …:"

Paragraph 11.9., amend to read:

"11.9. ~~Approvals of the vehicles to the 01 series of amendments to this Regulation which are not affected by the 02 series of amendments shall remain valid and Contracting Parties applying the Regulation shall continue to accept them.~~ **Contracting Parties applying the Regulation shall continue to accept approvals to the 01 series of amendments to this Regulation, for the vehicles which are not affected by the 02 series of amendments.**"

[1] Until 1 October 1998, the values obtained for the neck shall not be pass/fail criteria for the purposes of granting approval. The results obtained shall be recorded in the test report and be collected by the Type Approval Authority. After this date, the values specified in this paragraph shall apply as pass/fail criteria unless or until alternative values are adopted.

Insert new paragraphs 11.11. to 11.15., to read:

"**11.11.** **As from the official date of entry into force of the 03 series of amendments, no Contracting Party applying this Regulation shall refuse to grant UN approval under this Regulation as amended by the 03 series of amendments.**

11.12. **As from 1 September 2018, Contracting Parties applying this Regulation shall grant UN approvals only to those types of vehicle which comply with the requirements of this Regulation as amended by the 03 series of amendments.**

11.13. **Contracting Parties applying this UN Regulation shall not refuse to grant extensions of UN approvals for existing types which have been granted according to the preceding series of amendments to this UN Regulation.**

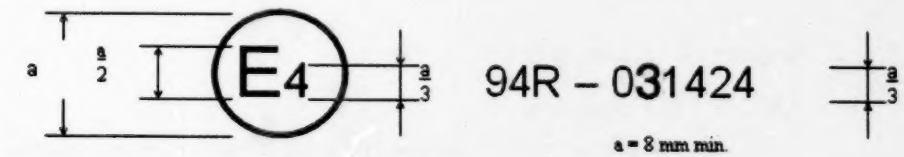
11.14. **Contracting Parties applying the Regulation shall continue to accept approvals to the 01 series of amendments to the Regulation, granted before 23 June 2013 or 2014, as foreseen in paragraph 11.5. above.**

11.15. **Contracting Parties applying the Regulation shall continue to accept approvals to the 02 series of amendments to the Regulation, granted before 1 September 2018."**

Annex 2, amend to read:

"Model A

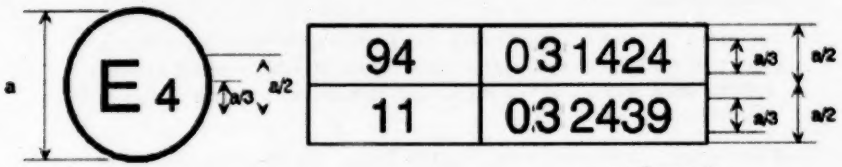
(See paragraph 4.4. of this Regulation)



The above approval mark … approval number 0231424. The approval number indicates that the approval was granted in accordance with the requirements of Regulation No. 94 as amended by the ~~02~~ 03 series of amendments."

Model B

(See paragraph 4.5. of this Regulation)



a = 8 mm min.

~~The above approval mark affixed to a vehicle shows that the vehicle type concerned has been approved in the Netherlands (E 4) pursuant to Regulations Nos. 94 and 11[1].~~ The first two digits of the approval numbers indicate that, at the dates when the respective approvals were granted, Regulation No. 94 incorporated the ~~02~~ **03** series of amendments and Regulation No. 11 incorporated the ~~02~~ **03** series of amendments."

Annex 3,

Paragraph 1.4.3.1., amend to read:

"1.4.3.1. Position of steering wheel

The steering wheel, if adjustable, shall be placed in the normal position indicated by the manufacturer or, ~~failing that~~ **in the absence of any particular recommendation by the manufacturer**, midway between ... of the vehicle."

Paragraph 1.4.3.3., amend to read:

"1.4.3.3. Gear-change lever

The gear-change lever shall be in the neutral position. **If the vehicle is propelled by its own engine, then the gear-change level shall be defined by the manufacturer**."

Paragraph 1.4.3.10., amend to read:

"1.4.3.10. Head restraints

Head restraints adjustable for height shall be in their ~~uppermost~~ **appropriate** position **as defined by the manufacturer. In the absence of any particular recommendation from the manufacturer, then the head restraints shall be in their uppermost position.**"

Paragraph 2.1.1. and footnote 1, amend to read:

"2.1.1. A dummy corresponding to the specifications for HYBRID III **fiftieth percentile male dummy**[1] fitted with a 45° ankle and meeting the

~~[1] The latter number is given only as an example.~~

[1] The technical specifications and detailed drawings of Hybrid III corresponding to the principal dimensions of a fiftieth percentile male of the United States of America, and the specifications for its adjustment for this test are deposited with the Secretary-General of the United Nations and may be

specifications for its adjustment shall be installed in each of the front outboard seats in accordance with the conditions set out in Annex 5. The ankle of the dummy shall be certified in accordance with the procedures in Annex 10."

Annex 4,

The title, amend to read:

"Head Performance Criterion (HPC) and 3 ms head acceleration Performance criteria"

Paragraphs 1. to 1.1., amend to read:

"1. Head Performance Criterion (**HPC_{36}**)

1.1. The Head Performance Criterion (**HPC_{36}**) is considered to be satisfied when, during the test, there is no contact between the head and any vehicle component."

Paragraphs 2. to 2.1., amend to read:

"2. ~~Neck~~ Injury Criteria for **neck**

2.1. These criteria are determined by the compressive axial force, the axial tensile force and the fore/aft shear forces at the head/neck interface, expressed in kN and measured according to paragraph 5.2.2. of Annex 3 and by the duration of these forces expressed in ms."

Annex 5,

Paragraph 2.4.3.2., amend to read:

"2.4.3.2. Pelvic angle
As determined using the pelvic angle gauge (GM) drawing 78051-532 incorporated by reference in Part 572, which is inserted into the "H" point gauging hole of the dummy, the angle measured from the horizontal on the 76.2 mm (3 inch) flat surface of the gauge shall be 22.5 degrees plus or minus 2.5 degrees."

Paragraph 2.6.1., amend to read:

"2.6.1. The right foot of the driver test dummy shall rest ... The longitudinal centreline of the left foot shall be placed as parallel as possible to the longitudinal centreline of the vehicle. **For vehicles equipped with a footrest, it shall be possible at the request of the manufacturer to place the left foot on the footrest. In this case the position of the left foot is defined by the footrest.**"

Paragraph 2.8., amend to read:

"2.8. The temperature of the dummy and the system of measuring instruments shall be stabilized before the test and maintained so far as possible within a range

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consulted on request at the secretariat of the Economic Commission for Europe, Palais des Nations, Geneva, Switzerland.

between 19 °C and 22.2 °C."

Paragraph 3., amend to read:

"3. **The dummy jacket shall be installed at the appropriate position where the bolt hole of the neck lower bracket and the work hole of the dummy jacket are at the same position. With the test dummy at its designated seating position, as specified by the appropriate requirements of paragraphs 2.1. to 2.6. and 3.1 to 3.6. above, place the belt around the test dummy and fasten the latch. Remove all slack from the lap belt. Pull the upper torso webbing out of the retractor horizontally at a position via the centre of the dummy and allow it to retract. Repeat this operation four times. The shoulder belt should be at the position between the area which shall not be taken off from shoulder and shall not contact with the neck. The seat belt path shall be positioned: for HYBRID III fiftieth percentile male dummy, the hole of the outer side dummy jacket shall not be fully hidden by the seat belt. Apply a 9 to 18 N tension load to the lap belt. If the belt system is equipped with a tension-relieving device, introduce the maximum amount of slack into the upper torso belt that is recommended by the manufacturer for normal use in the owner's manual for the vehicle. If the belt system is not equipped with a tension-relieving device, allow the excess webbing in the shoulder belt to be retracted by the rewind force of the retractor.**

Where the safety belt and safety belt anchorages are located such that the belt does not lie as required above then the safety belt may be manually adjusted and retained by tape.

~~Adjustment of restraint system~~

~~With the test dummy at its designated seating position as specified by the appropriate requirements of paragraphs 2.1. through 2.6. above, place the belt around the test dummy and fasten the latch. Remove all slack from the lap belt. Pull the upper torso webbing out of the retractor and allow it to retract. Repeat this operation four times. Apply a 9 to 18 N tension load to the lap belt. If the belt system is equipped with a tension relieving device, introduce the maximum amount of slack into the upper torso belt that is recommended by the manufacturer for normal use in the owner's manual for the vehicle. If the belt system is not equipped with a tension relieving device, allow the excess webbing in the shoulder belt to be retracted by the retractive force of the retractor.~~"

Annex 8,

Paragraphs 4. to 4.3., shall be deleted.

Paragraphs 5. to 6., renumber as paragraphs 4. to 5.

II. Justification

1. In parallel with the introduction of a new regulation concerning frontal collision with focus on the restraint system, some amendments are needed in UN Regulation No. 94 to improve the protection of older occupants.

2. The text of UN Regulation No. 94 was aligned with the new UN Regulation on "Frontal impact with a focus on the restraint system".

3. Following decision of GRSP, the neck injury criteria remain unchanged in UN Regulation No. 94.

4. Following decision of GRSP, the references of the Hybrid III fiftieth male remain unchanged.

United Nations ECE/TRANS/WP.29/GRSP/2015/8

Economic and Social Council

Distr.: General
27 February 2015

Original: English

Economic Commission for Europe

Inland Transport Committee

World Forum for Harmonization of Vehicle Regulations

Working Party on Passive Safety

Fifty-seventh session
Geneva, 18-22 May 2015
Item 13 of the provisional agenda
Regulation No. 127 (Pedestrian safety)

Proposal for the 02 series of amendments to Regulation No. 127 (Pedestrian safety)

Submitted by the expert from the European Commission as Chair of the Task Force on Bumper Test Area within the Informal Working Group on global technical regulation No. 9 Phase 2*

The text reproduced below was prepared by the experts in the Task Force on Bumper Test Area (TF-BTA) which is a subgroup of the Informal Working Group on global technical regulation No. 9, Phase 2. TF-BTA proposes an amendment to the provisions of the bumper test. This text is based on informal document GRSP-56-41 distributed and endorsed, in principle, during the fifty-sixth session of the Working Party on Passive Safety (GRSP)(ECE/TRANS/WP.29/GRSP/56, para. 32). The modifications to the current text of the UN Regulation are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2012–2016 (ECE/TRANS/224, para. 94 and ECE/TRANS/2012/12, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

GE.15-03987 (E)

1503987

Please recycle

I. Proposal

Insert new paragraph 2.12., to read:

"2.12. **"*Bumper beam*" means the structural cross member under the bumper fascia protecting the front of the vehicle. The beam does not include foam, cover support or any pedestrian protection devices."**

Former paragraph 2.12., renumber as paragraph 2.13.

Former paragraph 2.13., renumber as paragraph 2.14. and amend to read:

"2.14. "*Bumper test area*" means ~~the frontal surface of the bumper limited by two longitudinal vertical planes intersecting points 66 mm inside the defined corners of the bumpers.~~ **either the front vehicle fascia between the left and right corner of bumper as defined in paragraph 2.17., minus the areas covered by the distance of 42 mm inboard of each corner of bumper, with this distance to be set from the most outboard point with a flexible tape held tautly along the outer surface of the vehicle, or the outermost ends of the bumper beam as defined in paragraph 2.12. (see Figure 5D), whichever area is wider.** ~~This distance is to be set with a flexible tape held tautly along the outer surface of the vehicle.~~"

Former paragraphs 2.14. and 2.15., renumber as paragraphs 2.15. and 2.16.

Former paragraph 2.16., renumber as paragraph 2.17. and amend to read:

"2.17. "*Corner of bumper*" means **the transversal position of** the vehicle's point of contact with a ~~vertical plane which makes an angle of 60° with the vertical longitudinal plane of the vehicle and is tangential to the outer surface of the bumper (see Figure 5).~~**corner gauge as defined in Figure 5B.**

For determination of the corner of bumper, the front surface of the corner gauge is moved parallel to a vertical plane with an angle of 60° to the vertical longitudinal centre plane of the vehicle (see Figures 5A and 5C) at any height of the centre point of the corner gauge between:

(a) Equal to and above the point found on the vertical line intersecting the Lower Bumper Reference Line at the assessment position in transversal direction or at 75 mm above the ground reference plane, whichever is higher.

(b) Equal to and below the point found on the vertical line intersecting the Upper Bumper Reference Line at the assessment position in transversal direction or at 1,003 mm above the ground reference plane, whichever is lower.

For determination of the corner of bumper, the gauge is moved to contact the outer contour/front fascia of the vehicle touching at the vertical centre line of the gauge. The horizontal centre line of the gauge is kept parallel to the ground plane.

The corners of bumper on both sides are subsequently defined as the outermost points of contact of the gauge with the outer contour/front fascia of the vehicle as determined in accordance with this procedure. Any points of contact on the top and the bottom edges of the gauge are not taken into account. The rear and side view mirrors and the tyres shall not be considered."

Figure 5, amend to read:

"Figure 5A

Corner of bumper example (see paragraph 2.17., note that the corner gauge is to be moved in vertical and horizontal directions to enable contact with the outer contour/ front fascia of the vehicle)

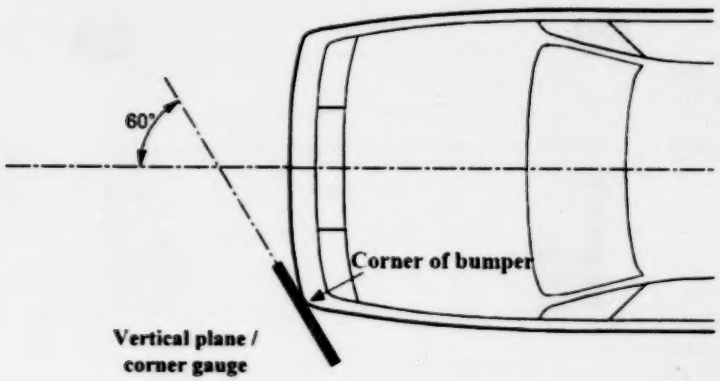
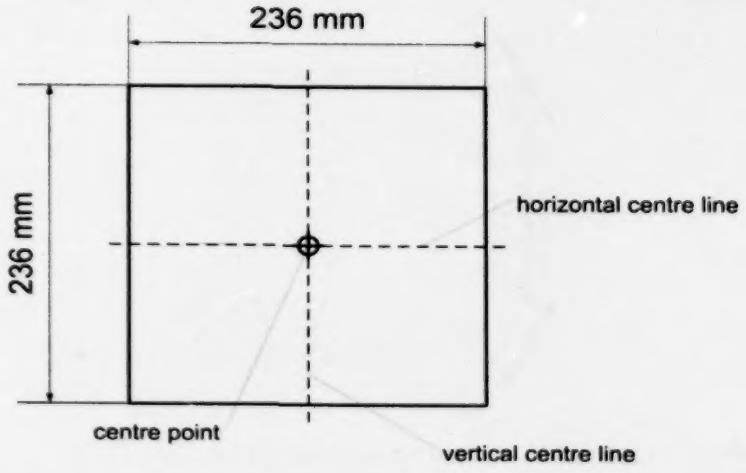


Figure 5B

Corner gauge



The front surface of the corner gauge is flat.

The centre point is the intersection of the vertical and horizontal centre lines on the front surface.

Figure 5C

Determination of the corner of bumper with the corner gauge (shown in random location)

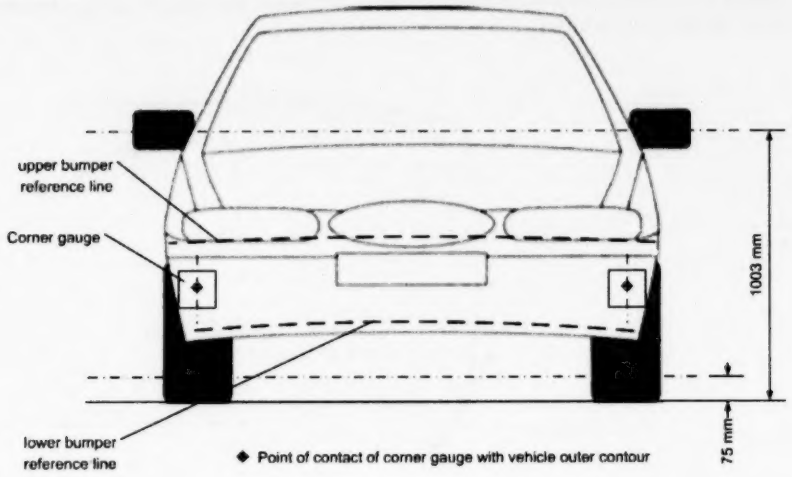
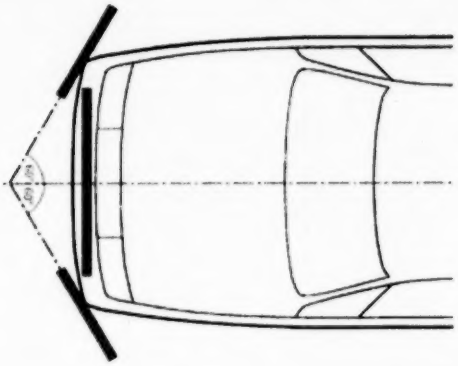

upper bumper reference line
Corner gauge
1003 mm
75 mm
lower bumper reference line
◆ Point of contact of corner gauge with vehicle outer contour

Figure 5D

Determination of bumper test area (note that the corner gauges are to be moved in vertical and horizontal directions to enable contact with the outer contour/front fascia of the vehicle)



"

Former paragraphs 2.17. to 2.42., renumber as paragraphs 2.18. to 2.43.

Paragraph 4.2., amend to read:

"4.2. An approval number shall be assigned to each type approved; its first two digits (at present **02** corresponding to the **02** series of amendments)... number to another vehicle type."

Paragraphs 11.1. to 11.4., amend to read:

["11.1. As from the official date of entry into force of the **02** series of amendments, no Contracting Party applying this Regulation shall refuse to grant or refuse to accept type approvals under this Regulation as amended by the **02** series of amendments.

11.2. As from 1 September 2017, Contracting Parties applying this Regulation shall grant type approvals only if the vehicle type to be approved meets the requirements of this Regulation as amended by the **02** series of amendments.

11.3. Contracting Parties applying this Regulation shall not refuse to grant extensions of type approvals for existing vehicle types which have been granted according to the ~~**preceding**~~ **original series of this Regulation or to the 01** series of amendments to this Regulation.

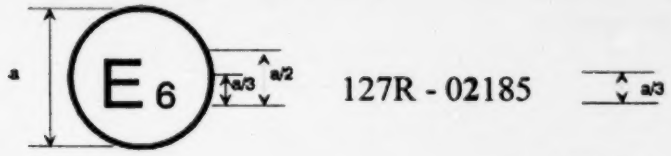
11.4. Contracting Parties applying this Regulation shall continue to accept type approvals to the ~~**preceding**~~ **original series of this Regulation and to the 01** series of amendments to the Regulation."]

Annex 2, amend to read:

"Annex 2

Arrangements of approval marks

(See paragraphs 4.4. to 4.4.2. of this Regulation)



a = 8 mm min

The above approval mark affixed to a vehicle shows that the vehicle type concerned has been approved in Belgium (E 6) with regard to its pedestrian safety performance pursuant to Regulation No. 127... as amended by the 02series of amendments."

Annex 5, paragraph 1.5., amend to read:

"1.5. A minimum of three lower legform to bumper tests shall be carried out, one each to the middle and the outer thirds of the bumper at positions judged to be the most likely to cause injury. Tests shall be to different types of structure, where they vary throughout the area to be assessed. The selected test points shall be a minimum of ~~132~~ **84** mm apart horizontally, and a minimum of ~~66~~ **42** mm inside the defined corners of the bumper. These minimum distances are to be set with a flexible tape held tautly along the outer surface of the vehicle. The positions tested by the laboratories shall be indicated in the test report."

II. Justification

1. Research showed a need to revise the procedure for determining the bumper test area. The current provisions allow the area to be narrower than intended in the legislative provisions.

2. The TF-BTA held several meetings to assess the raised issue.

3. Findings show a probability that the cost/effectiveness as determined by legislators is negatively affected by the indicated shortcomings.

4. Detailed accident data give evidence of an equal distribution of first pedestrian contact at the front of passenger cars in crashes with at least one injury suffered from contact with a part of the vehicle front end.

5. For the bumper test area, the left and right corner of bumper are first determined through a revised method incorporating a corner gauge tracing the external front bumper fascia that determines the most outboard contact points.

6. During testing, injurious points have been found outside test areas defined by measurements dependent on the outer contour, particularly at the ends of the bumper beam when they extend beyond the left and right corner of bumper. For this reason, the entire width of the bumper beam should also be included in the bumper test area in the second step. Lastly, the widest area is selected for assessment.

7. A clearer definition of what is the bumper beam is provided by the Research Council for Automobile Repairs.

8. The margin zone of half the width of the legform is needed to ensure stable measurement results on angled surfaces. As the bumper beam method is not linked to external fascia and its position/angle, the margin zone is not applied for the latter.

9. A proposal not including the bumper beam width as part of the test zone was also presented to GRSP at its December 2014 session, but was not endorsed awaiting the present proposal for amendment.